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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,696	06/28/2001	Michiaki Takano	209489US-2	4673
22850	7590	01/11/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			DAVIS, CYNTHIA L	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,696

Applicant(s)

TAKANO, MICHIAKI

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/28/01</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenney in view of Song.

Regarding claim 1, a transmission interrupting unit for interrupting signal transmission from the first base station is disclosed in Kenney, column 5, lines 3-4. A signal detecting unit for carrying out signal detection is disclosed in Kenney, column 5, lines 13-16. Overreach from the second base station being detected in a time period of interrupting transmission from the first base station is disclosed in Kenney, column 5, lines 3-4. Despredding a reception signal by a code allocated to the first base station, and allocating a same code to a first base station, a second base station and a third base station installed at intervals is missing from Kenney. This is disclosed in Song, column 2, lines 57-58 and 61-62 (disclosing a system where all base stations use the same code, but synchronize their transmissions so that they are not at the same time; dispredding using a code is how CDMA works). It would have been obvious to one

skilled in the art at the time of the invention to despread by the common code to detect interference. The motivation would be to determine the amount of interference from the other base stations.

Regarding claim 2, the signal detecting unit includes a correlation observation window previously determined based on an installation interval between the first and the second base stations and signal detection is carried out within the correlation observation window is disclosed in Kenney, column 5, lines 6-8 and 13-16 (the detector is updated at the beginning of every frame, and windowed FFT may be used).

Regarding claim 4, wherein the first base station determines a source of generating the overreach based on a code timing in signal detection is missing from Kenney. However, Song discloses in column 2, lines 61-62, that the timing is what distinguished the base stations using the same code from one another. It would have been obvious to one skilled in the art to use code timing to determine the source of the interference. The motivation would be to use an inherent characteristic of each base stations' transmissions to identify them.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenney in view of Song in further view of Bodin.

Regarding claim 3, wherein the first base station includes two or more directional antennas in correspondence with sectors and determines a source of generating overreach in either of the second base station and the third base station based on the sector at which the overreach is detected is missing from Kenney. However, Bodin discloses in column 3, lines 44-46, that directional antennae are well known in the art. It

would have been obvious to one skilled in the art to have the base station include two or more directional antennae, and to know which antenna was picking up the interference from the other base stations. The motivation would be to use a type of base station that is well known in the art.

4. Claims 5-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song in view of Kenney.

Regarding claim 5, a transmission unit for generating a transmission signal by spread modulation using a predetermined code is disclosed in Song, column 2, lines 13-14. A signal detecting unit for carrying out signal detection by despreading a reception signal by the code is disclosed in Song, column 2, lines 13-14, and column 2, lines 57-58 (the base stations can hear each other; they all use the same code; despreading using a code is how CDMA works). A transmission interrupting unit for interrupting signal transmission from a station of the CDMA base station apparatus, and the signal detecting unit detecting a transmission signal from other station allocated with the code during a time period of transmission interruption by the transmission interrupting unit is missing from Song. This disclosed in Kenney, column 5, lines 3-4. It would have been obvious to one skilled in the art at the time of the invention to detect interference during an interrupt period. The motivation would be to not interfere with the normal operations of the CDMA system.

Regarding claim 6, the transmission unit using the code synchronized with a reference timing is disclosed in Song, column 2, lines 57-58 and 61-21 (the stations have the same code; they synchronize their transmissions to distinguish themselves).

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The signal detecting unit including a predetermined correlation observation window having a previously provided shift of a timing relative to the reference timing and carries out the signal detection within the correlation observation window is missing from Song. This is disclosed in Kenney, column 5, lines 6-8 and 13-16 (the detector is updated at the beginning of every frame, and windowed FFT may be used). It would have been obvious to one skilled in the art to use a correlation observation window. The motivation would be to use a known method of detecting interference.

Regarding claim 7, the transmission unit uses the code synchronized with a reference timing is disclosed in Song, column 2, lines 57-58 and 61-21 (the stations have the same code; they synchronize their transmissions to distinguish themselves). The signal detecting unit calculates a distance to the other station based on the reference timing and a code timing in the signal detection is disclosed in Song, column 5, lines 29-34 (distances between mobile stations and base stations are calculated; from this information, distances between other stations could easily be calculated as well).

Regarding claim 8, the transmission interrupting unit is means for stopping transmission power during a time period of interrupting transmission by a location service is disclosed in Song, column 5, lines 29-34 (disclosing a location service).

Regarding claim 10, a transmission step of transmitting a signal generated by spread modulation using a code allocated to a station of the CDMA base station apparatus is disclosed in Song, column 2, lines 13-14 and 57-58 (the base stations transmit, and they have codes). Despreading a reception signal by using the code is

disclosed in Song, column 2, lines 13-14 (the base stations can be heard by each other, dispreading using a code is how CDMA works). A transmission interrupting step for interrupting signal transmission from the station; and a signal detecting step of carrying out signal detection during a time period of interrupting transmission of the station is missing from Song. This is disclosed in Kenney, column 5, lines 3-4. It would have been obvious to one skilled in the art at the time of the invention to have an interrupt period for detecting interference. The motivation would be to not interfere with the operation of the CDMA system.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Song in view of Kenney in further view of Agin.

Regarding claim 9, the transmission interruption unit is means for stopping transmission power during a time period of interrupting transmission by a compressed mode is missing from Song. However, Agin discloses in column 2, lines 16-24, stopping transmission in a CDMA system using compressed mode. It would have been obvious to one skilled in the art at the time of the invention to stop the transmission using the compressed mode. The motivation would be to use a method that is part of standard UMTS.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLD
1/7/2005

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